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Notice of Allowability	Application No.	Applicant(s)	
	09/608,158	BALASINSKI ET AL.	
	Examiner	Art Unit	
	Kandasamy Thangavelu	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to July 21, 2004.
2. ☒ The allowed claim(s) is/are 2,3,7 and 9-16.
3. ☒ The drawings filed on 20 July 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

[Signature]
 KEVIN J. TESKA
 SUPERVISORY
 PATENT EXAMINER

DETAILED ACTION

Introduction

1. This communication is in response to the Applicants' communications dated July 21, 2004. Claims 2, 7 and 9 were amended. Claims 1 4-6 and 8 were deleted. Claims 14-16 were added. Claims 2, 3, 7 and 9-16 of the application are pending.

Drawings

2. The changes to the drawings submitted on July 20, 2004 are accepted.

Reasons for Allowance

3. Claims 2, 3, 7 and 9-16 of the application are allowed over prior art of record.
4. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

The closest prior art of record shows:

(1) a method of performing design rule checking on OPC corrected designs, using a simulated image that would be printed on a wafer if the wafer were exposed to illumination directed through the corrected design; the simulated image is compared with an ideal layout image and the results are used to perform design rule checking; the simulated image is compared

with the desired design to decide on the corrections to be added to the original design; simulation of the resist and etching process is used to provide additional accuracy (**Chang et al.**, U. S. Patent 6,470, 489);

(2) a method for inspecting a mask for defects using a defect area image in the image simulator; the image simulator generates a first simulated image using the defect area image, the first simulated image being a simulation of an image that will be printed on a wafer if the wafer is exposed to illumination; the method then generates a second simulated image which is a simulation of the wafer print of a portion of the design mask that corresponds to the defect area; the method compares the first and second simulated images to determine the printability of identified potential defects on the mask (**Chang et al.**, U. S. Patent 6,757,645); and

(3) a mask pattern verification method using optical simulation for estimating the final configuration of a pattern formed on a mask; the mask data for use with optical simulation is generated from the layout data; optical simulation is performed according to a predetermined optical condition and the pattern that will be actually formed on the mask is evaluated; a layout correction unit corrects the layout data according to the distortions identified (**Tsukuda**, U. S. Patent 6,038,020).

4.1 Applicant's first set of claims consists of Claims 9, 2, 3, 10-16 and 7.

Independent 9 is directed to a method for producing a mask for fabrication of an integrated circuit. The claim identifies the uniquely distinct features of:

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“simulating a mask from a first drawn layout, to produce a simulated mask”, “comparing the simulated mask and the first drawn layout”, “correcting the first drawn layout, to produce a second drawn layout” and “producing a mask from the second drawn layout”.

The closest prior art fails to teach or fairly suggest the steps of simulating a mask from a first drawn layout, to produce a simulated mask, comparing the simulated mask and the first drawn layout, correcting the first drawn layout, to produce a second drawn layout and producing a mask from the second drawn layout, as claimed by the Applicants. Therefore, Claims 9, 2, 3, 10-16 and 7 are deemed novel and allowable.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

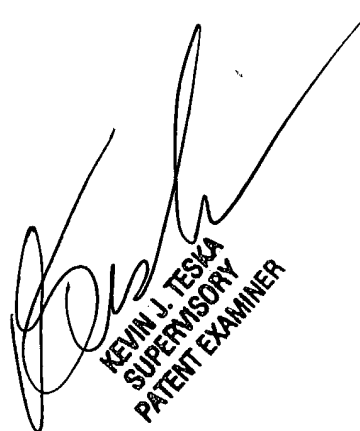
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 703-305-0043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska, can be reached on (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

K. Thangavelu
Art Unit 2123
July 30, 2004



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER